



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBT400213
Job Sheet 180451



Part No: RBT400213

Job Qty: 1 ea

Part Name: 407 Trim Tab Bender (407-215-001-101)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 7/6/18

Job Tracking No:

Due Date: 7/13/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBT400213 Rev F IPP Rev.A 17.09.22 New issue DP Verify DD IPP 17.11.23 Rev B TEO DP Verify DD
IPP Rev B 17.11.23 TEO DP Verify DD/IPP Rev C 18.03.08 DWG update Rev. F DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		7/13/18	0.00	0.00	Start Up Small Fab-4		MLC
110	Small Fab	1 pcs		7/13/18	0.00	1.00	Small Fab-9		MLC
120	QC	1 pcs		7/13/18	0.00	0.00	QC5		B
130	Packaging	1 pcs		7/13/18	0.00	0.00	Packaging3-2		DAG
140	QC21-FG	1 Ea		7/13/18	0.00	0.00			OCT 31 2018

Part Op 90 - See engineering for hardware sign off. ***Was AN426AD-4-8, IS MS20426AD4-8. Was AN470AD-4-7, IS
Descriptions: MS20470AD4-7. WAS AN350-4, IS MS35426-14.***

110 - Assemble as per DWG. Hand tighten only

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBT400213-1	Tab Bender Body	1 Ea (1 ea)	90-Start up Operation	5063620
RBT400213-7	Top Tab Assembly	1 Ea (1 ea)	90-Start up Operation	5122900
RBT400213-9	Pointer	1 Ea (1 ea)	90-Start up Operation	5103917
MS20426AD4-8	Rivet	4 Ea (4 ea)	90-Start up Operation	F18136-4
MS20470AD4-7	Rivet, Universal Head	2 Ea (2 ea)	90-Start up Operation	5048900
MS35426-14	SS Wing Nut	4 Ea (4 ea)	90-Start up Operation	5036210
NAS1149F0432P	Washer	4 Ea (4 ea)	90-Start up Operation	5050055-1

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MS20426AD4-8	4	1,911	0
	MS20470AD4-7	2	2,227	0
	MS35426-14	4	46	0
	NAS1149F0432P	4	2,799	0
	RBT400213-1	1	4	0
	RBT400213-7	1	0	0
	RBT400213-9	1	0	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

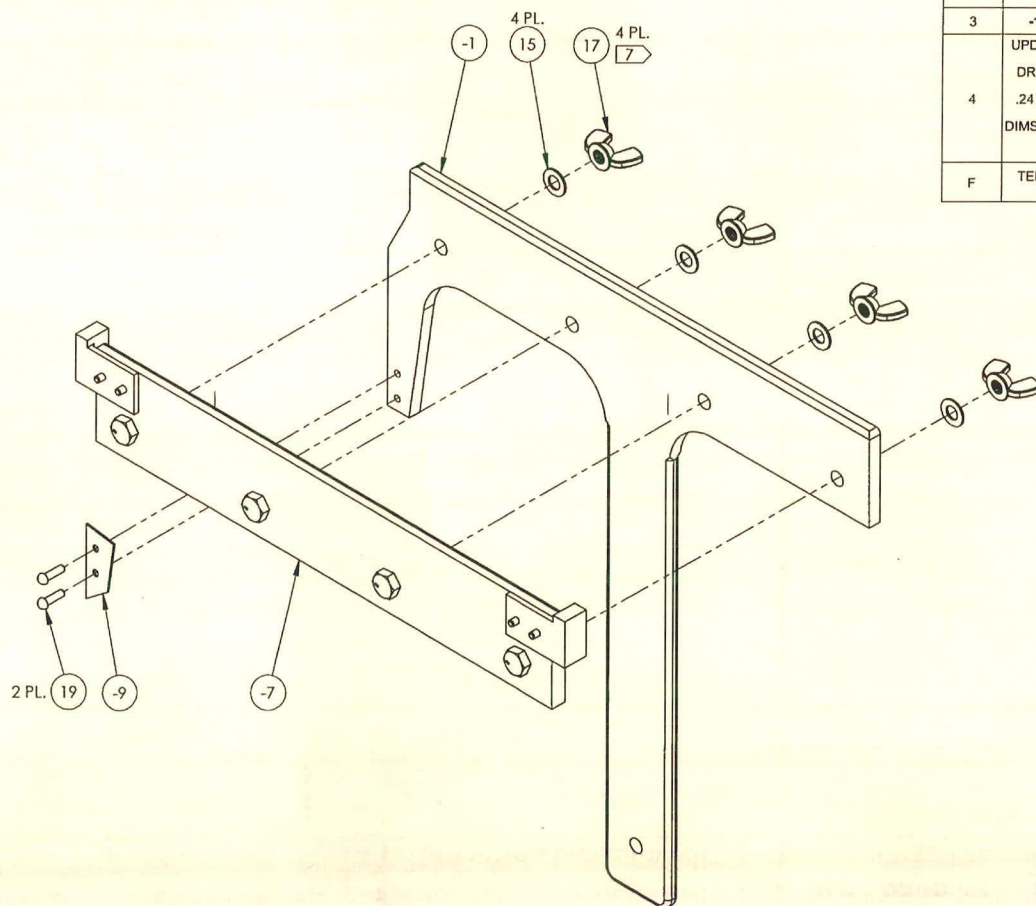
**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
Container No: S123036 Part: RBT400213 Job No: 180451 Serial No/Batch: S123036 Revision: F Inspector: Exp Date: Instructions: Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K64 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com				Lead hand / Supervisor Approval Verification																	
Date: 10/31/18				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

ITEM #	QTY	PART #	TITLE	PG	REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
-1	1	RBT400213-1	TAB BENDER BODY	2	A	CH'D TITLEBLOCK & REVISION BLOCK, CH'D DWG. NO. FROM 407-215-001-101, CH'D DESCRIPTION IN BOM P/N -1, -3, -4, -5.	-	6/18/2009	RJC	-
-7	1	RBT400213-7	TOP TAB ASSY	3	1	ADDED -9 & -19, CH'D DESIGN -1 PER S.E. SEPARATED PARTS TO INDIVIDUAL SHEETS, CREATED ASSY. DWG. & -7 ASSY. DWG.	-	4/27/2011	RJC	-
-9	1	RBT400213-9	POINTER	7	2	CH'D -1 CHAMFER FROM 1/16 & CH'D FINISH FROM POWDER COAT YELLOW ADDED -5 FINISH PER R.W. MOVED #30 HOLE TO BE SYMETRICAL WITH RIGHT SIDE PER S.E. DELETED -7 FINISH & NOTE 2 PER R.W.	-	8/25/2011	RJC	RW
15	4	NAS1149F0432P	WASHER 1/4"	-	3	-1 CH'D TWO HOLES DIM'S, WAS R.064 (x2) IS Ø.125 (X2).	-	12/26/2013	RJC	GE
17	4	AN350-4	WING NUTS 1/4"-28	-	4	UPDATED TO NEW DRAFTING STANDARDS. -1 CH'D DIM WAS .250 IS (.250). -3, -4 CH'D DIMS WAS DRILL #30 THRU X2 IS 2X Ø.129 THRU, WAS .500 IS (.500). -5 CH'D DIM WAS DRILL #30 THRU CSK 100° X .24 OD 4 PLACES IS 4X Ø.129 THRU Ø.24 X 100°. -7 CH'D DIM WAS 11.580 IS (11.580). -9 CH'D DIMS WAS 1.051 IS (1.051), WAS .801 IS (.842), WAS .301 IS .347. ADDED DIMS (.311), (.381), .500, CH'D TOLERANCE ON NON-CRITICAL DIMENSIONS.	15-0021	1/26/2015	DPD	JAG
19	2	AN470AD-4-7	HEAD RIVET 1/8" x 7/16"	-	F	TEMPLATE UPDATED, NOTE 7 ADDED, ITEM 15 AN960-416L WASHER CHANGED FOR NAS1149F0432P	17-797	17.12.21	VM	ML



- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) SPEC: N/A
 - 5) BREAK ALL SHARP EDGES: N/A
 - 6) IDENTIFICATION: N/A
 - 7) HAND TIGHTEN ONLY

RBT400213 407 TRIM TAB BENDER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 180457 MWS
18-07-06

DART AEROSPACE Hawkesbury, Ontario, Canada	
TITLE 407 TRIM TAB BENDER	
PART NO. RBT400213	REV F
TOOL NO. RBT400213	
INITIALS AND DATE	
DESIGNED BY: VM 12/21/2017	TOLERANCES: .XXX ± .005 FRACTIONS ± 1/8
DRAWN BY: VM 01/02/2018	XX ± .01 ANGLES ± .5°
CHECKED BY: VM 01/02/2018	X ± .1 SURFACE ROUGHNESS
MFG REVIEW BY: DD 01/02/2018	APPROVED BY: ML 01/30/2018
SCALE: NTS	SHEET 1 OF 7
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DQA: _____ Date: _____

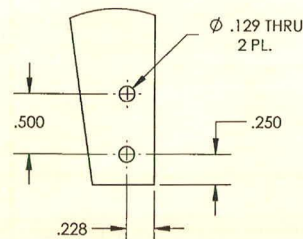
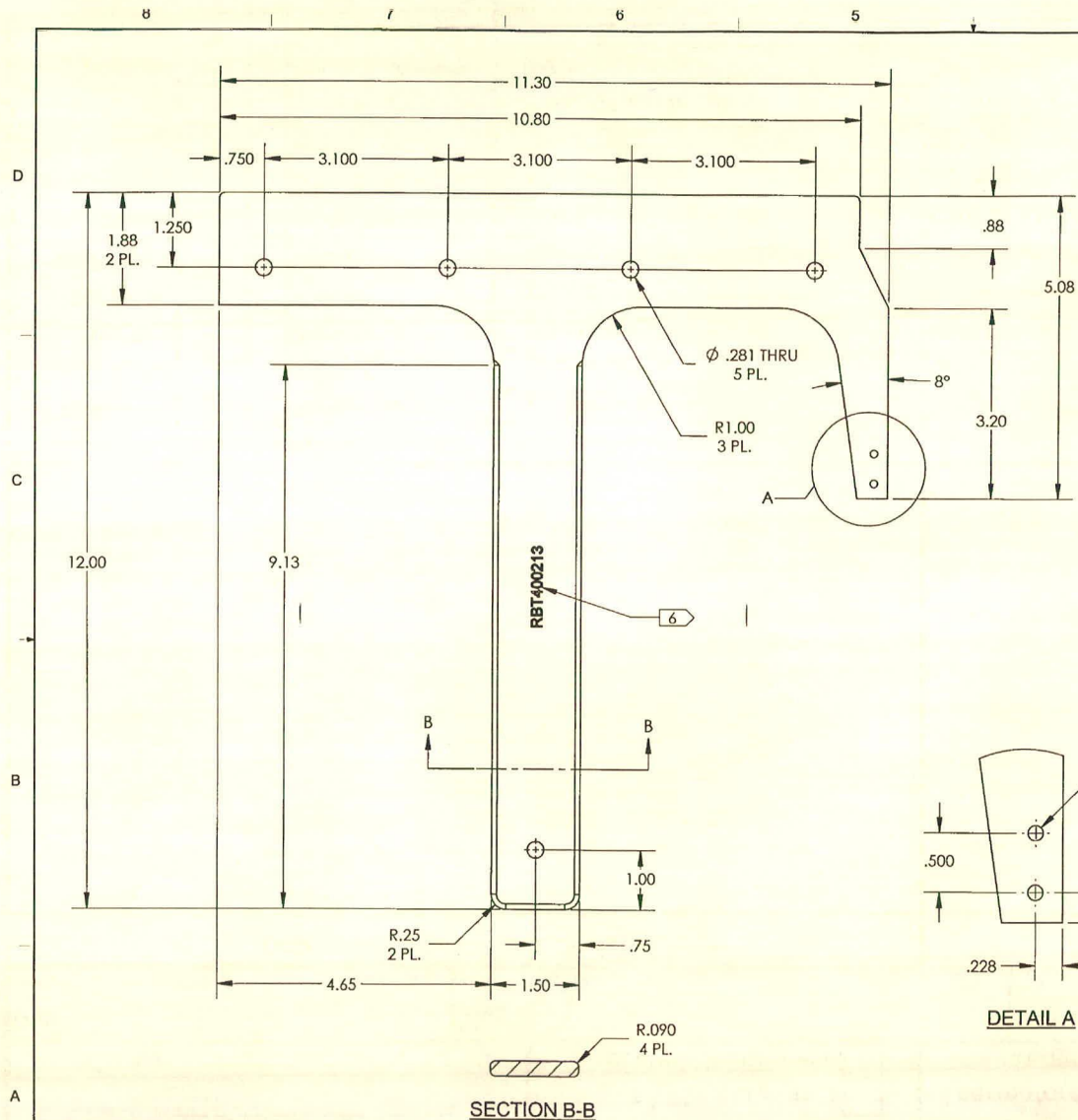


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

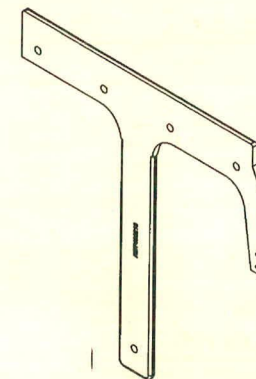
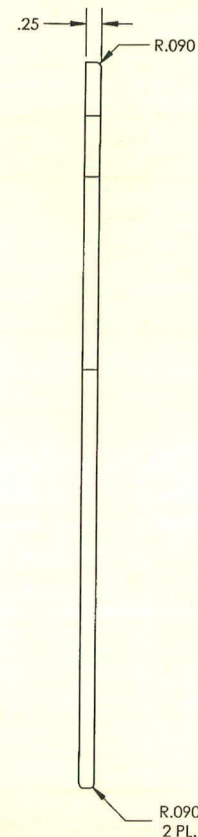
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐							



- NOTES:**
- 1) MATERIAL: 6061-T6
 - 2) HEAT TREAT: N/A
 - 3) FINISH: RED ANODIZE
 - 4) SPEC: MIL-A-8625, TYPE II, CLASS 2; WATER SEALANT
 - 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R
 - 6) IDENTIFICATION: MACHINE ENGRAVE T/N AS SHOWN, 0.010" DEEP

RBT400213-1 TAB BENDER BODY

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
F	DRILL SIZE .280 CHANGED TO STANDARD DRILL SIZE .281, .125 CHANGED .129 ENGRAVING CHANGED FOR MACHINE ENGRAVE, TEMPLATE UPDATED, S/N REMOVED, DIMENSION 9.13 FOR RADIUS LENGHT ADDED	17-797	17.12.21	VM	ML



 Hawkesbury, Ontario, Canada		TITLE	
		TAB BENDER BODY	
PART NO.		REV	
RBT400213-1		F	
TOOL NO.	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5M-2009 DIMENSIONS APPLY AFTER FINISHING		
INITIALS AND DATE		TOLERANCES:	
DESIGNED BY: VM 12/21/2017	XXX ± .005		FRACTIONS ± 1/8
DRAWN BY: VM 01/02/2018	XX ± .01		ANGLES ± .5°
CHECKED BY: VM 01/02/2018	X ± .1		SURFACE ROUGHNESS
MFG REVIEW BY: DD 01/02/2018	APPROVED BY: ML 01/30/2018		SCALE: NTS
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

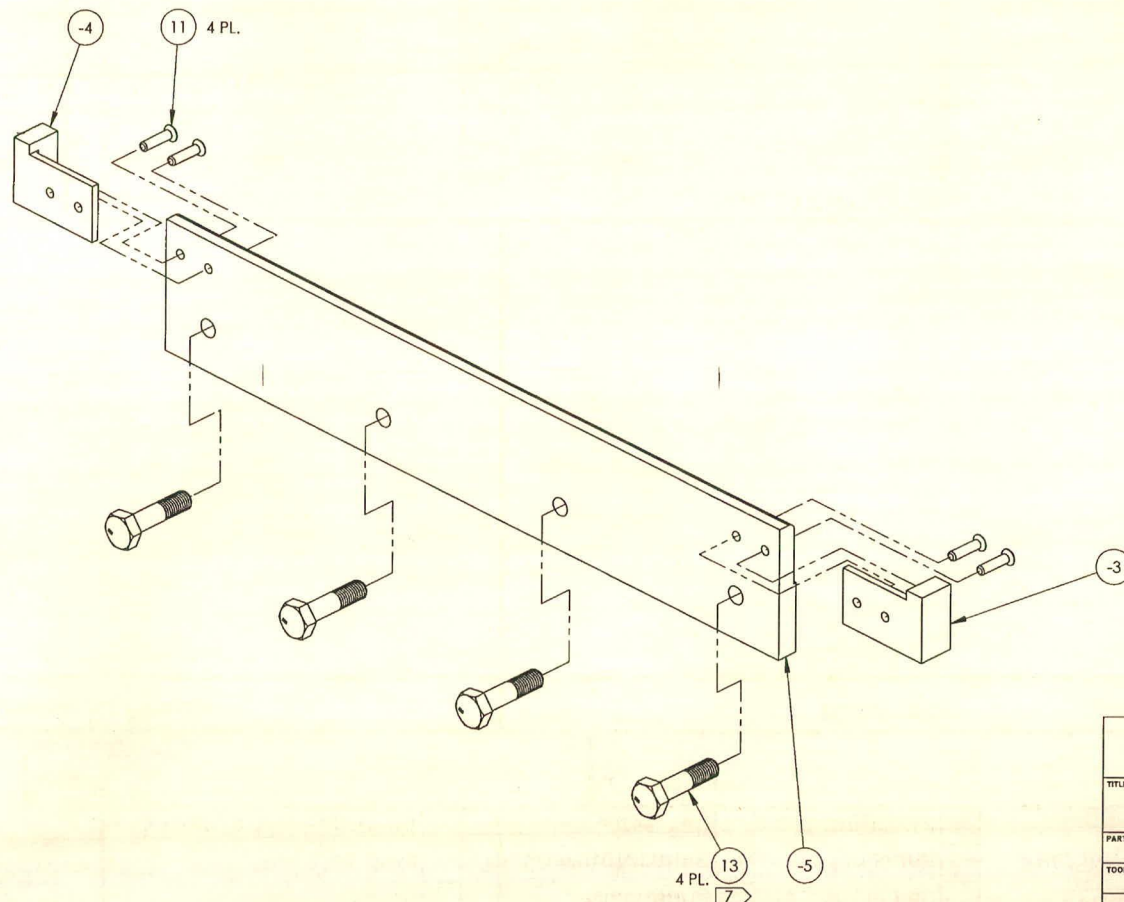
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

ITEM #	QTY	PART #	TITLE	PG
-3	1	RBT400213-3	LEFT CLAMP	4
-4	1	RBT400213-4	RIGHT CLAMP	5
-5	1	RBT400213-5	TOP TAB	6
11	4	AN426AD-4-8	C.S HEAD RIVET 1/8" x 1/2" x 100°	-
13	4	AN4-10A	HEX HEAD BOLT 1/4"-28 x 1 1/32"	-

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
F	TEMPLATE UPDATED, EPOXY CHANGED FOR EPOXY DP460	17-797	17.12.21	VM	ML



NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) SPEC: N/A
- 5) BREAK ALL SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) APPLY SCOTCH WELD DP460 EPOXY UNDER BOLT HEAD AND INSTALL BOLT INTO ITEM -5. ALLOW TO CURE PER MANUFACTURER'S INSTRUCTIONS

RBT400213-7 TOP TAB ASSY

DART AEROSPACE Hawkesbury, Ontario, Canada	
TITLE TOP TAB ASSY	
PART NO. RBT400213-7	REV F
TOOL NO. RBT400213	
INITIALS AND DATE	
DESIGNED BY: VM 12/21/2017	TOLERANCES: XXX ± .005
DRAWN BY: VM 01/02/2018	.XX ± .01
CHECKED BY: VM 01/02/2018	.X ± .1
MFG REVIEW BY: DD 01/02/2018	APPROVED BY: ML 01/30/2018
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5M-2009 DIMENSIONS APPLY AFTER FINISHING	
FRACTIONS ± 1/8	ANGLES ± .5°
SURFACE ROUGHNESS	
SCALE: NTS	SHEET 3 OF 7
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DQA: _____ Date: _____



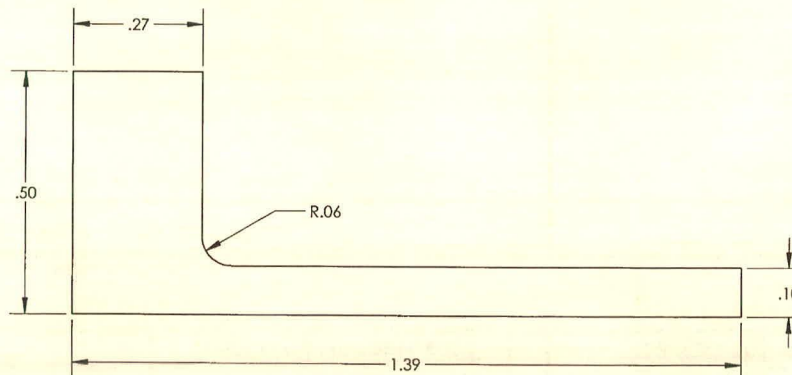
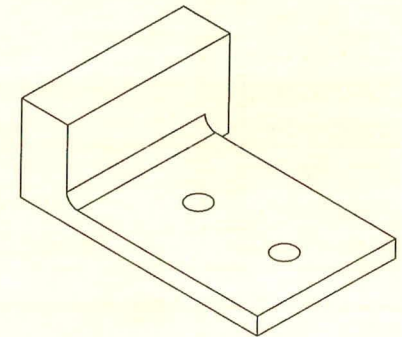
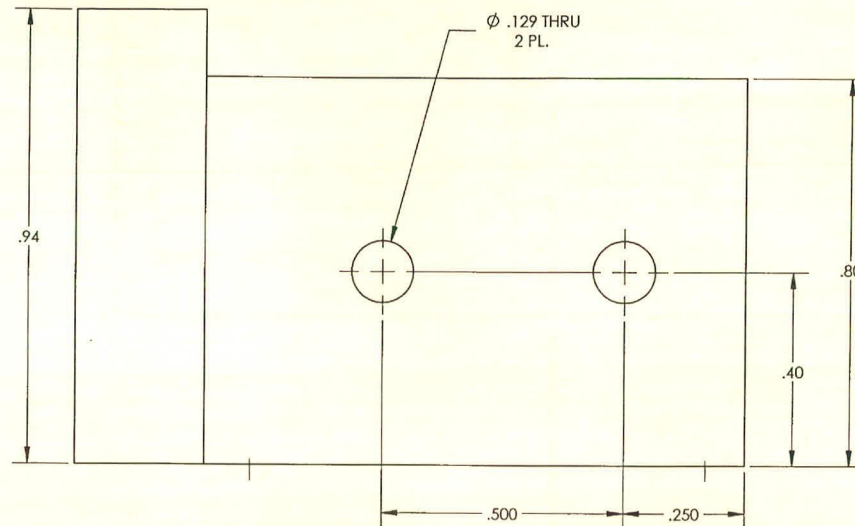
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
F	TEMPLATE UPDATED, TOLERANCES CHANGED ON DIMENSIONS .937 / .800 / .270 / .500 / .400 TO X.XX	17-797	17.12.21	VM	ML



- NOTES:
- 1) MATERIAL: 6061-T6
 - 2) HEAT TREAT: N/A
 - 3) FINISH: RED ANODIZE
 - 4) SPEC: MIL-A-8625, TYPE II, CLASS 2; WATER SEALANT
 - 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R
 - 6) IDENTIFICATION: N/A

RBT400213-3 LEFT CLAMP

DART AEROSPACE Hawkesbury, Ontario, Canada	
TITLE LEFT CLAMP	
PART NO. RBT400213-3	REV F
TOOL NO. RBT400213	
INITIALS AND DATE	
DESIGNED BY: VM 12/21/2017	TOLERANCES: .XXX ± .005 FRACTIONS ± 1/8
DRAWN BY: VM 01/02/2018	.XX ± .01 ANGLES ± .5°
CHECKED BY: VM 01/02/2018	.X ± .1 SURFACE ROUGHNESS
MFG REVIEW BY: ML 01/30/2018	SCALE: NTS SHEET 4 OF 7
APPROVED BY: ML 01/30/2018	
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DQA: _____ Date: _____

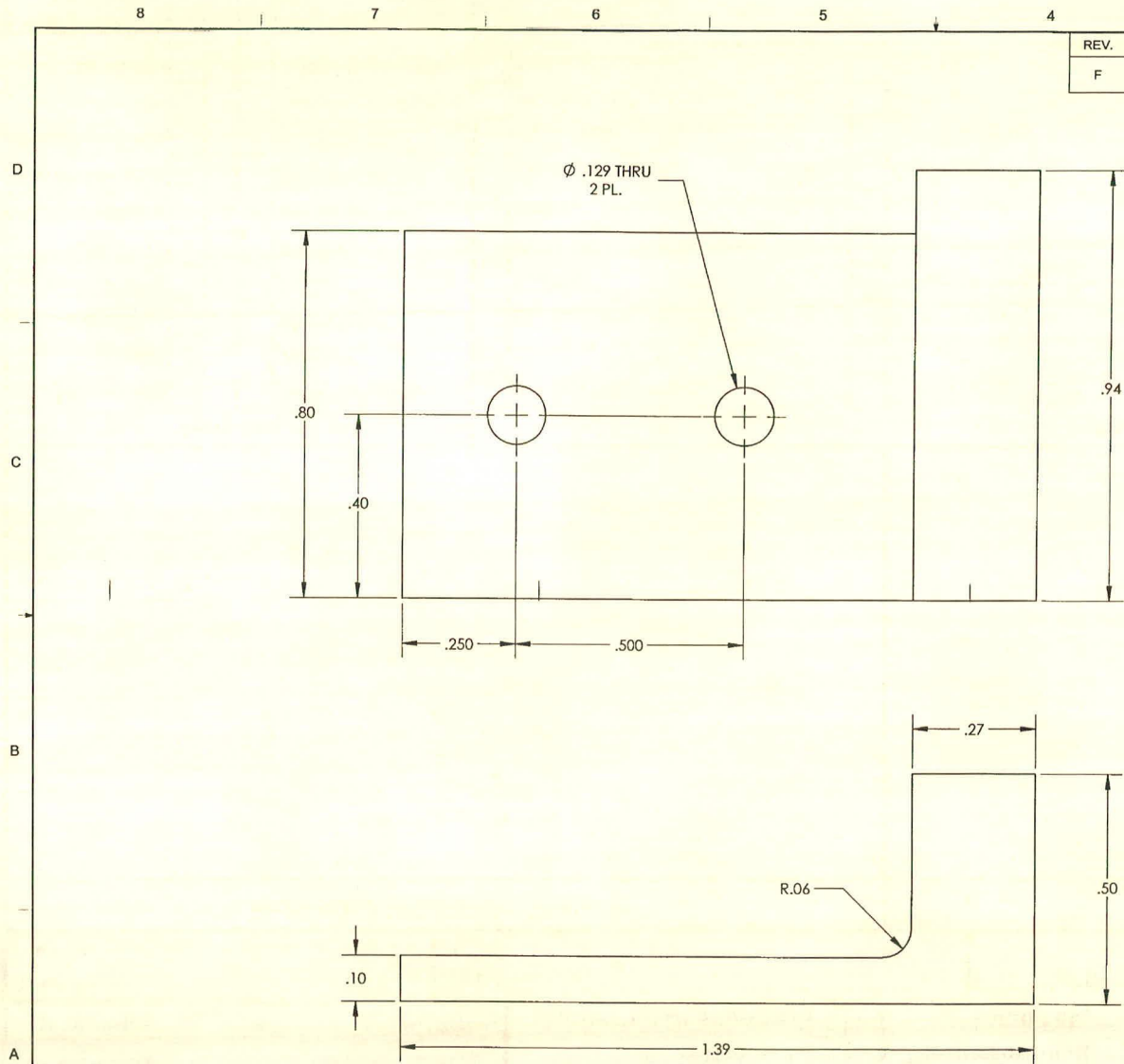


WORK ORDER NON-CONFORMANCE / UPDATE

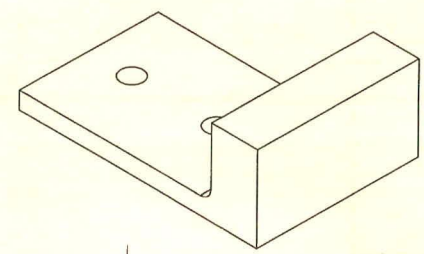
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								



REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
F	TEMPLATE UPDATED, TOLERANCES CHANGED ON DIMENSIONS .937 / .800 / .270 / .500 / .400 TO X.XX	17-797	17.12.21	VM	ML



- NOTES:
- 1) MATERIAL: 6061-T6
 - 2) HEAT TREAT: N/A
 - 3) FINISH: RED ANODIZE
 - 4) SPEC: MIL-A-8625, TYPE II, CLASS 2; WATER SEALANT
 - 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R
 - 6) IDENTIFICATION: N/A

RBT400213-4 RIGHT CLAMP

DART AEROSPACE Hawkesbury, Ontario, Canada	
TITLE RIGHT CLAMP	
PART NO. RBT400213-4	REV F
TOOL NO. RBT400213	
INITIALS AND DATE	
DESIGNED BY: VM 12/21/2017	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5M-2009 DIMENSIONS APPLY AFTER FINISHING
DRAWN BY: VM 01/02/2018	TOLERANCES: XXX ± .005 FRACTIONS ± 1/8
CHECKED BY: VM 01/02/2018	XX ± .01 ANGLES ± .5°
MFG REVIEW BY: DD 01/30/2018	X ± .1 SURFACE ROUGHNESS
APPROVED BY: ML 01/30/2018	SCALE: NTS SHEET 5 OF 7
COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____

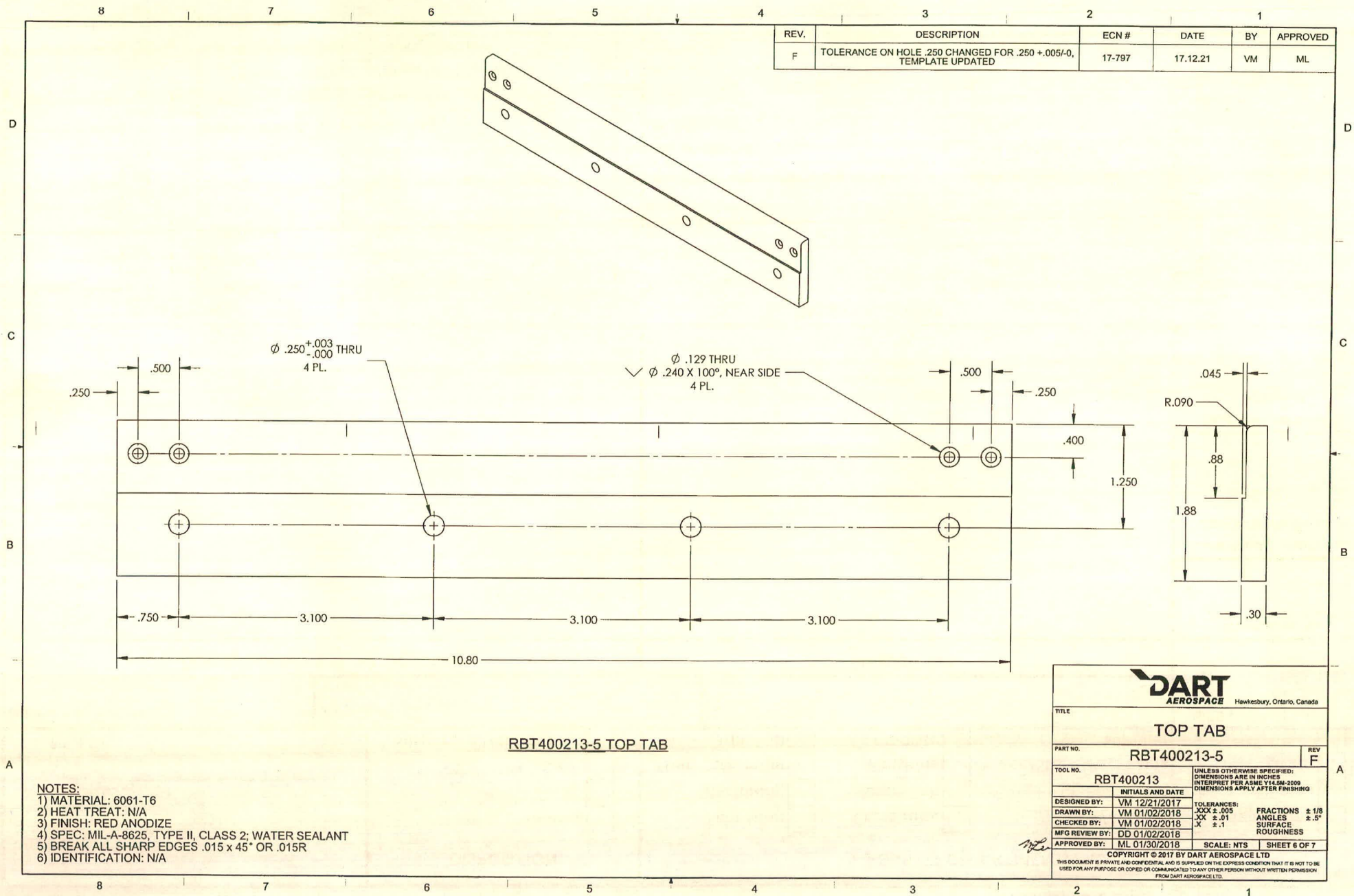


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



- NOTES:
- 1) MATERIAL: 6061-T6
 - 2) HEAT TREAT: N/A
 - 3) FINISH: RED ANODIZE
 - 4) SPEC: MIL-A-8625, TYPE II, CLASS 2; WATER SEALANT
 - 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R
 - 6) IDENTIFICATION: N/A

DART AEROSPACE Hawkesbury, Ontario, Canada	
TITLE TOP TAB	
PART NO. RBT400213-5	
TOOL NO. RBT400213	REV F
INITIALS AND DATE	
DESIGNED BY: VM 12/21/2017	TOLERANCES: .XXX ± .005 FRACTIONS ± 1/8
DRAWN BY: VM 01/02/2018	.XX ± .01 ANGLES ± .5°
CHECKED BY: VM 01/02/2018	X ± .1 SURFACE ROUGHNESS
MFG REVIEW BY: DD 01/02/2018	APPROVED BY: ML 01/30/2018
SCALE: NTS SHEET 6 OF 7	
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DQA: _____ Date: _____



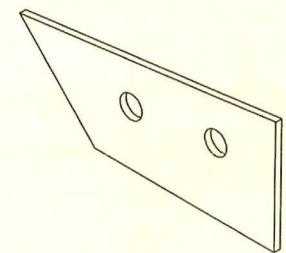
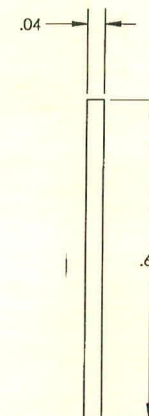
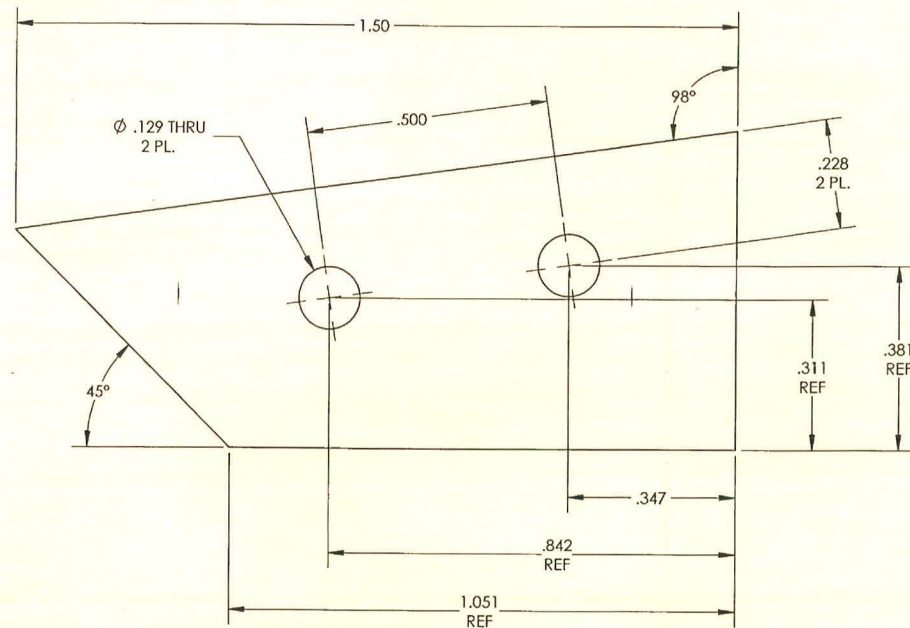
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
F	DRILL HOLE .128 CHANGED FOR STANDARD DRILL SIZE .129	17-797	17.12.21	VM	ML



RBT400213-9 POINTER

- NOTES:
- 1) MATERIAL: AISI 304/316 SS
 - 2) HEAT TREAT: N/A
 - 3) FINISH: N/A
 - 4) SPEC: N/A
 - 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R
 - 6) IDENTIFICATION: N/A

DART AEROSPACE		Hawkesbury, Ontario, Canada	
POINTER			
PART NO. RBT400213-9		REV F	
TOOL NO. RBT400213			
INITIALS AND DATE		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES INTERPRET PER ASME Y14.5M-2009 DIMENSIONS APPLY AFTER FINISHING	
DESIGNED BY:	VM 12/21/2017	TOLERANCES:	FRACTIONS ± 1/8
DRAWN BY:	VM 01/02/2018	.XXX ± .005	ANGLES ± .5°
CHECKED BY:	VM 01/02/2018	.XX ± .01	SURFACE
MFG REVIEW BY:	DD 01/02/2018	.X ± .1	ROUGHNESS
APPROVED BY:	ML 01/30/2018	SCALE: NTS	SHEET 7 OF 7
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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